

SECOND TECHNUNET TRAINING COMMITTEE MEETING (TTC2)

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Session 1

Welcome address by DIP  
Introduction by TECHNUNET Centre  
Election of Chairman  
Approval of Agenda  
Presentation of discussion papers

The welcoming address was delivered by the Director-General of the Department of Industrial Promotion, Thailand, and followed by an introduction by TECHNUNET Centre.

Manu Leopairote (DIP) was elected Chairman and Mr Bermawi (DP) Vice Chairman.

The Agenda was approved as proposed.

As there were no papers for discussion it was decided that the discussion paper and the excerpt of the evaluation of the INDEXTRAC '76 prepared by Santi Grachangnetara would serve as a guideline for discussions.

The first session then went into a broad and general discussion concerning each individual Participating Organizations (POs) views concerning training requirements. Several POs went on to explain to the meeting the situations facing them in their respective countries regarding operational policies and the difficulties arising from these:

Bhattacharjee suggested that individual differences for basic training be determined as well as each Participating Organizations needs using the basic programme of INDEXTRAC or other like courses for discussion and that the items of the agenda be dealt with in relation to one another rather than as specific subjects.

Mr Gall explained that POs training needs are covered in broad areas in their Forward Programmes however there is need to find out specific areas of interest in order to make recommendations to the Council.

SISIR: felt the trainees who attended INDEXTRACs present at the meeting should offer comments on their experiences. Mr Goh was doubtful of the need for a separate training course but perhaps one which could be included in the basic training course curriculum. Selection should be considered in the light of the content of a trainers training course, that is, if one is felt necessary.

SIRIM: In reply to Zulkifli's contention that in addition to its training needs and MARA's, the Federal Industrial Development Authority should have been invited since it too is responsible for Malaysia's training, it was explained that the selection of appropriate trainees for such training courses is the responsibility of SIRIM or MARA and they could nominate whoever they felt was suitably qualified. It was suggested that FIDA, which is the policy-making body as regards training, and the Malaysian POs aim towards the development of some sort of collaboration.

Zulkifli asked whether the pre-requisite for trainers should be those who participated in INDEXTRACs and it was explained that that too would be at the discretion of the PO concerned. They would have to make the selection adequately, sensibly and logically.

As regards the separate trainers training course, SIRIM was in agreement with SISIR, especially from the point of view of budget and the resources available.

The participants from SIRIM, when interviewed by Zulkifli as to the usefulness of the INDEXTRAC, expressed satisfaction with the course. They did not however have the confidence to go into the field and apply their knowledge.

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SKB: Three critical elements mentioned as regards the training courses is the transfer of knowledge to the recipient, the recipient and the method of transfer.

MARA: Kamaruddin admitted that although he selected the representative from his organization for INDEXTRAC, he was not aware of the course objectives and content. MARA intends to have its personnel trained in field work as they have the vacancies but no suitable personnel. His nominee was non-technical and he sought clarification as to whether the trainees should have technical backgrounds or industrial disciplines.

On the question of selection Kamaruddin asked whether it is intended that the trainees at INDEXTRAC become trainers. Bhattacharjee commented that it would be useful to have continuity in selecting the INDEXTRAC trainees as trainees and furthermore, to choose those with a flair or aptitude for extension work as well as a basic ability to transfer knowledge effectively. Trainer development, he said, is a wide field.

The question was how many of those trained actually assimilate and apply the knowledge gained at training courses.

IDB: was also represented at INDEXTRAC. The IDB extension officers gain experience from day-to-day field work and training from other countries - the training however is not necessarily in industrial extension. With respect to selection criteria, Elwela feels that there are other officers at IDB who, though not formally trained in industrial extension, are doing extension work and should qualify for selection as trainers.

DIP: expressed satisfaction with INDEXTRACs as it has helped extension officers to improve themselves in general. ISI and TMDPC are in favour of trainer courses to fill their local training needs in Thailand. The knowledge gained at INDEXTRAC could be transferred to their staff who will in turn conduct local courses for the private sector. Pong recently conducted two courses on quality control in collaboration with the Technical Promotion Thai-Japan Association for some 80 participants from various industries in the private sector (electronics, textile, bicycle assembly, auto assembly etc). He follows up by assisting them with their problems. Pong (TMDPC) feels that industry needs help at plant level and as a result of INDEXTRAC, he was better equipped with knowledge of management to assist. The background of participants was felt to be important in selection criteria and his background extends from food technology to quality control.

KORSTIC: is in the "infant" stage of industrial extension. Lee found INDEXTRAC adequate for his needs at KORSTIC. He has transferred this knowledge to his colleagues who have, in some cases, gone out into the field and applied the knowledge better than he had. Lee felt that much depends on the trainee selection. Strong basic knowledge of extension and inherent abilities should be the pre-requisites of extension officers. The exchange of experiences through the Asian Industrial Extension Officers Forum plus actual practical field work would be very useful for their development. It was felt that a separate training course for trainers is not necessary. The INDEXTRAC trainees could conduct the local training courses.

## Session 2

Determine individual Participating Organizations  
interests regarding basic training courses

DP:

conducts various training courses in Entrepreneurship Development and one such course is the Achievement Motivation Training. It was recently done by a foreign expert from India (a colleague of S K Bhattacharjee). Trainees are selected from several institutes involved in entrepreneurship development training (e.g. Department of Industry - DP, Development Bank etc). DP has 12 Achievement Motivation trainers. So far 300 potential entrepreneurs have received training and this includes existing small-scale businessmen. The results will be monitored after six months. However, through interviews with the trainees the courses were found to be useful for the general improvement of their businesses. DP proposes to send 2 Achievement Motivation trainers to India (sponsored by UNIDO) for training to improve in teaching in English so that they may be trained in other countries.

The problem faced by DP is the proper utilization of these people and follow-up of managerial training.

The basic INDEXTRACs were found satisfactory for DP needs and Bermawi felt that training in leadership and communication should be included in the syllabus since it is necessary for the extension officers to communicate effectively with industrialists. In addition to training for extension officers DP felt that the managers and middle-managers should receive similar training so that they would be aware of the activities of their staff.

KORSTIC:

It is KORSTIC's desire to secure more extension officers therefore they would like the basic INDEXTRAC to be continued.

The extension officers at KORSTIC (trained either at INDEXTRAC or other courses) will be organized as instructors on a rotating basis to instruct their colleagues in KORSTIC and other organizations.

In Korea the university professors respond to the requests of the extension officers. The Ministry of Education is encouraging them to assist the neighbouring small-scale industrialists during their vacations.

Lee felt that INDEXTRAC did not benefit him as much as it did those to whom he transferred his knowledge. He feels that it would be useful for those on the job to receive similar basic training and may consider organizing local or domestic training for them in the Korean language.

When asked whether he considered external resources within the region or NRC/TIS or internal resources useful, Lee replied that he would like assistance from other countries, however, it would not be very much help unless instruction is in Korean. Extension officers in KORSTIC have various ranks and it is proposed that among those to be trained at INDEXTRAC the senior officers will become senior instructors. KORSTIC plans to select trainees from other institutions and professors who are interested to attend the basic training course. Selection criteria is important since the participants of the basic INDEXTRAC will ultimately be the trainers.

As a participant of the last INDEXTRAC in Manila, Lee commented that the curriculum was well-organized and satisfactory. However he wished to make three suggestions: He felt that the programme should be re-arranged or modified. In his experience, there were four weeks classroom lectures devoted to field methodology after which they were assigned to the field. This was followed by valuable lectures, especially one by S K Bhattacharjee on practical methodology. Lee felt that he could have done better in the field if that particular lecture preceded the field assignments.

The second suggestion was pertaining to the Back-Home-Action-Plans (BHAPs). He feels that the BHAPs should be done during the course and not after so that it would be possible for a trainee to revise what he had missed.

The third point was on the field assignments. He felt that the trainees should be assigned to fields other than those in which they are qualified in order to widen their experiences.

With the present method of evaluation, Lee feels that there will be a tendency to compete and hence lose sight of the actual objectives of the course.

SIRIM:

In SIRIM extension is sometimes undertaken by a division other than that so assigned. They often run into difficulties in getting help from other units.

As mentioned in the first session, SIRIM feels that INDEXTRAC was satisfactory. In future officers will be selected not just from one particular unit but others too. It was felt that attitude and aptitude is important criteria for selection. It would be necessary for SIRIM's extension officers to be able to disseminate information requested by the industrialists (and, if necessary, demonstrate the applications); Methods of dealing with local facilities and resources was felt to be important and lastly the human relations aspect since it would be necessary for the extension officers to communicate with people of different levels in rural areas.

It was mentioned that the last item is already covered in the current INDEXTRAC course content.

MARA:

agreed that there is need for basic training. MARA's main interest lies with entrepreneurship development. Though the importance of diagnosing industrial problems and making recommendations was acknowledge, it was felt that the Council (mentioned in Session 1) should be involved for that sort of training. Since there is a possibility that those officers selected for the basic INDEXTRAC will become trainers, it will be necessary to select those from a higher level since they should have the ability to impart knowledge effectively.

The function of the Advisory Services and Enterprise Development Division is to upgrade small-scale industries and create new ones. This entails education of entrepreneurs and promotion of small-scale industries.

The staff of extension officers comprise generalists and a pool of experts and professionals and technically qualified people. He does not envisage special courses for MARA, but would like to continue with the INDEXTRACs (basic) for the time being.

The whole idea is to enable state ground level to initiate ideas and proposals and decrease the workload of headquarters hence the emphasis on training such people.

Kamaruddin felt that it would be useful to include self analysis at the outset of the course so that the officer will be aware of his shortcomings, and in doing so, could improve.

Gall:

pointed out that the initial trend taken by TECHNONET was towards existing industries and it was only recently recently that it appreciated the significance of entrepreneurship development.

UP ISSI and EDF:

were not represented at this session.

SISIR:

Goh explained that SISIR had not sent any representative to INDEXTRACs but will send one to the next course to decide its usefulness and relevance. It had observed that INDEXTRACs are useful to the other POs and suggested that it should be continued in its present form.

IDB:

The four participants who attended INDEXTRAC were interviewed by Elwela and they expressed satisfaction with the course. IDB has 40-50 staff requiring training as extension officers at the earliest opportunity, and Elwela wished to know if more trainees (for instance, six) could be accommodated at INDEXTRAC. He also enquired about the admission requirements or selection criteria - whether nominee had to be a generalist or specialist. After two or three years it will be necessary for IDB to conduct courses in the local language. About 30 of the above staff (from the science media) are conversant in English.



IDB ran a local course with the help of staff trained at other courses. There were 28 participants at that course. They were senior development officers assigned to the regional offices. On the basic extension aspect they drew on the experiences of senior regional managers who had been with the institute for eight or nine years and lecturers from the university to train on specialized subjects. Lecturers from other departments with relevant experiences were also invited to address the participants. The four trainees at INDEXTRAC '76 were called upon to relate their experiences at the Manila training course. The duration of this local course was two weeks.

IDB is involved in training in other areas as well. Recently 10 short-term courses were conducted for small industrialists on accounting practice, labour laws etc. The duration of these courses was three days. Extension work is relatively new in Sri Lanka. IDB's development officers have multifarious functions and are experienced in fieldwork although they are not formally trained at INDEXTRACs. Other functions include completing official documents, small scale industry financial project reports, feasibility reports, and its marketing division is concerned with upgrading quality control, information needs etc. The Ministry of Planning, Ministry of Industries, Development Banks and other organizations make use of these facilities. These development officers work with the various regional offices in the districts.

The IDB extension division was established only last year and before this there was a tendency to compete with each other and not co-operate.

Although it was felt that the INDEXTRAC covered all aspects of IDB's needs, Elwela proposed the inclusion of special subjects such as project evaluation, preparation of financial reports etc., in the course content.

Santi:

From the discussions so far it could be said that there appears to be three POs interested in entrepreneurship development and the others are concerned with improving existing technology or production units. This is a basic difference. It was felt that the possibility

of incorporating both subjects in the basic course should be considered so that the course would cater to the needs of both groups.

Bhattacharjee:

explained the difficulties of merging the two elements within the same time frame and deciding which deserves more emphasis.

In order to design the course content Bhattacharjee felt it necessary to know the spheres of work of the trainees and the requirements of the POs for each extension officer to perform his specific function. This would give the content a solid base. Three aspects were felt to be important - that is the knowledge, the kind of skill required by the trainee for the range of industries serviced and the kind of attitudes towards his work.

IDB: (continued)

The type of trainees selected are usually experienced therefore the INDEXTRACs serve to broaden their outlook and as a refresher course. Elwela felt that a basic knowledge of elementary project evaluation (or existing or new industries) would be extremely useful to IDB extension officers. He was willing to provide guidelines of their requirements.

Bhattacharjee:

It is possible to draw up a very preliminary introduction to the subject.

DIP:

According to ISI, there is no question that basic training course is necessary for its staff. The main problem they face is staff turnover therefore they have a large number of officers that need training. Concerning selection criteria, ISI feels that the trainees nominated should be experienced in fieldwork. They have an extension, information and technical services unit which are mainly specialists in specific fields so most of the staff start working in technical service in a particular field and do some research work as well. Their training is received under the experienced staff with whom they work. The extension unit is separate.

ISI extension officer identify problems and refer them to the

ISI is responsible for promoting and assisting small and medium scale industries. There are other institutes set up to help particular industries - e.g. the Textile Institute, Northern Industrial Service Institute responsible for promoting industries in the northern region.

He went on to explain the activities of ISI and the northern branch at Chiangmai which he expects will also need basic training.

TMDPC: Pong was also one the participants of INDEXTRAC. He felt that the course covered his needs well. The aspects considered by him to be more important were how to diagnose problems and advise on correct techniques and the code of ethics because they deal with different people. They handle industrial problems by going out to the industrialists and interviewing them. Then a report is submitted together with recommendations and it is left to the industrialist to decide whether to implement the recommendations. They need to convince the management that the extension officers have the knowledge and skills to assist the industrialists.

TMDPC is responsible for promoting and assisting the large industries and medium ones both within and without the Institute.

ISI felt that the basic training course should be a general one so that extension officers can identify problems and convince clients of necessary changes.

With regard to field sessions of the INDEXTRAC, Padetpai felt that extension officers qualified in a particular discipline cannot assist effectively in a totally different field unless it is a team effort.

Bhattacharjee:

From his personal experience in working with these groups he saw one common basic problem in terms of selection of trainees. There is a tussle between technology-oriented people and general-oriented people. When faced with a situation more sophisticated than he has experienced or where his counsellors cannot help, there is the problem of the extension worker withdrawing mentally. Bhattacharjee

tended to think that the focus of the basic course should be a general one and then at some point of time branched off to a generalists one with different functions from people handling day-to-day technology and so on and another group in basic orientation of some other aspect so that in the plant work the trainees will need to collaborate with one another and have a reciprocating arrangement and therefore learn the value of collaborating.

If at the end the trainees are evaluated and rankordered it will create a competitive condition and those who have not done well will carry this feeling continuously. Evaluation in terms of BHAPs where trainees see their strength and weaknesses and not an organizational plan but an individual one, it will be beneficial.

Gall:

The evaluation should be done as a group rather than individually with the instructor so that the experiences should be shared with the other trainees.

In conclusion it was felt that INDEXTRACs should continue for the time being. Those attending should have a good working knowledge of English and have a technical background with moderate experience. Not all POs are interested to send trainees to INDEXTRAC but they should be continued for the benefit of those which need such training and cannot as yet adequately conduct these locally. Because of existing conditions in each country, a mixture of backgrounds of trainees are anticipated but wherever possibly those with appropriate backgrounds should be nominated.

Future courses will have the same curriculum as INDEXTRAC '76 with the possible inclusion of subjects on "Project Evaluation" and Pre-investment Counselling".

Course evaluation should be done in a way to minimize the spirit of competition and maximize the learning effect of the fieldwork assignments. Evaluations should be done with group participation rather than individual teams.

### Session 3

Determine individual Participating Organizations  
interests regarding advanced training courses  
and trainers' courses

It was recognized that there were in fact two areas of discussion as regards the above topic - trainers' training, advanced training and specialized training. It was suggested that the POs keep in mind TECHNONET's objective of self-reliance and train trainers for local training. This could have a multiplier effect in that to train locally one has to consider trainers' training first.

DP:

considers trainers' training very important. It conducts courses on Achievement Motivation Trainers' Training the duration of which is 6 weeks (including 4 weeks practice training) to 6 months for government officials as they cannot be taken away from duty for long periods. DP has a large corp of extension officers in the region and therefore local training is very important. Follow-up trainers' training will have a multiplier effect and local training courses could be conducted by the trainer staff. The Achievement Motivation Trainers train 20 entrepreneurs or potential entrepreneurs.

The selection process is important. Achievement Motivation trainers have to be experienced in teaching. In Indonesia government officials besides holding regular jobs, teach in the afternoon. They also have backgrounds in marketing or management theory. There are certain procedures on selection of potential participants. In the case of extension officers it is necessary to select trainees of appropriate backgrounds to attend if the results are to be fruitful. The trainers are selected from the Department of Industry, Chamber of Commerce, Development Banks and the Department of Labour. It is DP's opinion that the selection should not be confined to the PO itself.

As far as specialized training is concerned DP's areas of priority for small and medium scale industries are metal working industries, wood-based industries, handicraft, food processing, leather products and industrial design.

KORSTIC:

did not feel it necessary to have a separate trainers' course. Lee felt that the basic training course can fill this need adequately. Those trained at the basic INDEXTRACs should be able to organize trainers training courses in their own countries.

In KORSTIC it is proposed that extension officers trained at the basic INDEXTRACs organize training of trainers who will in turn conduct local training. The extension officers are expected to build up their experience and competence in the field. Since there were only two participants to INDEXTRAC they will not be able to organize trainers' training just yet but would like to have more basic courses first. The selection criteria will therefore be in line with its objective for participants to the basic course to become trainers.

KORSTIC's areas of sectoral priority are the different engineering fields - chemical, electric, electronic, construction, metallurgy (including the pure science fields). At the moment KORSTIC is providing extension only in the Seoul area. (Its branch office at Chusan port city provides only information services.) There are some professors of various fields from the universities joining the extension service during their free hours. They are mostly from the College of Engineering Science.

SIRIM:

In reply to Bhattacharjee's question as to whether there is a target population to be trained and if there is any kind of training being done this year for extension officers, Zulkifli replied that there are institutions conducting training courses (e.g. Institute of Public Administration which trains and provides consultancy services) however it was necessary to have discussion with these institutes before any comment could be made.

The two-week lectures by NRC/TIS to extension officers at SIRIM were found extremely useful.

SIRIM's sectoral priorities are the wood-based industries (including wood craft), metal working, food processing (marine foods and other agro-based foods, canning), clay products (ceramics or bricks, refractory products), plastics, rubber (specialized training). As regards specialized training in rubber industry,

if such assistance is not available within the TECHNONET Participating Organizations, SIRIM would like to send its staff to outside institutions for training, say to Canada.

MARA:

As mentioned in the previous sessions, Malaysia has certain training institutions set up for the training of government officers and quasi-government officers. MARA does not anticipate the need for a trainers' training course immediately - but perhaps in the near future. It was suggested that the National Productivity Centre would be the right people to participate in trainers' training but wished to have time to come to some agreement with relevant bodies in Malaysia as to which institutions should undertake training of trainers. Its objective is to upgrade the skills of extension officers.

MARA desires trainers' training but on a national basis. There are a number of institutions and departments doing extension work. MARA would like to have a corp of trainers but has to decide whether the participants should come from MARA, NPC or the Institute of Public Administration because the people who become trainers should be experienced in teaching and be able to impart knowledge effectively. MARA also desires specialized training.

UP ISSI:

has trainers' courses which are purely for upgrading the techniques of their own trainers (course leaders) within the Institute (not outsiders). He sought clarification as to whether the trainers are existing or new trainers. The type of trainers selected determine the course e.g. if the course is for existing trainers then there will be a need to teach advanced techniques and how to improve. In the Philippine experience, they identified the target number of extension workers to be reached and had to accelerate these courses. These courses cover the government sector.

The Course Leaders' course is a 50-session (each session lasting two hours) full-time general course for all the Institute's lecturers or potential lecturers. Practical training is evaluated on the basis of how the knowledge can be imparted to a certain group of participants - in other words they evaluate each other. The basic needs are usually identified. The objective of the institute is identified and how to carry out these goals and objectives. The participants give

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amendments  
in summary*

a talk on the respective fields of interest and it is followed by a question and answer period and the participant is evaluated on how well he is able to impart his knowledge. The consultancy courses are similar to the basic INDEXTRACs wherein technical aspects, marketing, finance, are covered in a sort of total approach. They also cover subjects on how to start a business etc.

During the practice session the participants have a chance to exchange experiences and relate one to another.

UP ISSI's areas of priority are food processing, furniture, low-cost automation. This concerns the government sector, in particular the institution. The financial sector and others have their own priorities. There are agencies in the Philippines such as the Executive Development Authority, which are already conducting several programmes and which fill their needs adequately.

Bhattacharjee:

SIET runs courses on the national and international level - a four weeks training programme. During the first week they scan through the different learning theories so that they know some concepts, then this is followed by in-curriculum training. They determine the training objectives, breakdown training objectives, methodologies, time frame, aids etc and then move on to the practice session in which they practice lecturing, handling a case, etc. A participant lectures a group and this is evaluated by the participants. They are given sufficient time for preparation of notes, audio visual aids and training materials etc. Last aspect is training evaluation.

Trainers' training for entrepreneurs is the long programme lasting up to 8 weeks (4 weeks on content aspect, motivation aspect - managerial skill which could be called the pre-investment session and then they move into the concept of training). The trainee must of course have the appropriate background and content matter to teach. The focus is more on the individual. The purpose is to help the trainee meaningfully look at his experience as he goes along revising it. It is a continuous process which is far from complete even when the trainee completes the course. Some sort of experience in the field is necessary. Most of the organizations in India have a big establishment for orientation in training.



EDF:

Its training courses are similar to those offered by SIET. The first phase is basically the same as the course described by Bhattacharjee. EDF's courses is a two-week programme with practice teaching for familiarization. The local trainers' training courses are basically for its staff and for staffs of institutions with fairly large training units. The theoretical aspects are dealt with, and this is usually to formalize or systematize previous experiences of the trainer-participants. Larger stress, however, is on the applied portions of the course. These include these practice instruction exercises in which the participants and faculty comment on the practitioners; and, more important, on-the-job (post-classroom training) observation, coaching and clinic or evaluation session.

EDF's assistance is aimed at the existing small- and medium-scale entrepreneurs in the private sector.

Gall:

Remarking on the diversity within TECHNUNET suggested some sort of interchange among the Participating Organizations in training experiences. Those POs contemplating the organization of such training locally but lack the facilities could be assisted by those which have on-going training activities. This would be a good exchange of experience and transfer of what is good from one to the other.

SISIR:

The extension officers at SISIR are specialists in the various disciplines. They identify requirements of industrialists and conduct tests and experiments at their laboratories - they are the experts. If a problem is related to a particular field the expert in that field will handle the case.

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SISIR suggested that a general syllabus be drawn up with basic guidelines given by the meeting for the trainers' training course for those interested POs. It was suggested also that participants who had attended INDEXTRAC be selected for the trainers' training course should one be organized.

As regards specialized training, SISIR expressed doubt at the need to have a separate course. It was suggested that an exchange of personnel to observe the activities of Participating Organizations would suffice. SISIR would like to participate in the NRC/TIS training course.

SISIR's areas of priority are food processing, metal industry (including foundry etc.).

Santi:

Duration of a trainers' training course should there be need for one, will probably one month as a longer one would not be of real use and would take up too much time of fairly senior level personnel who would be attending such a course. The selection would have to be suitably qualified extension officers however, personnel who have not attained high academic qualifications but have had a number of years should not be overlooked. The ultimate choice however lies with the PO concerned.

Bhattacharjee:

Participants who attended INDEXTRACs may meet all requirements but Bhattacharjee felt they need time to mature in the field. An important aspect of the course is building up or developing the skills or expertise in the right places. There is a need to develop such ingredients as training materials - where there is a big vacuum, and use of different materials to suit different cultures.

IDB:

Extension service is becoming a very important aspect for IDB and as they will be embarking on local training very soon, would like to train trainers' as soon as possible. In the case of the local course which was conducted by IDB for extension officers in June, Elwela said that he was able to rely on existing institutions (e.g. National Institute of Management etc) for certain basic subjects and disciplines, however for the subject of industrial extension there is no resource in Sri Lanka. Therefore they would like to send 5 or 6 trainees at the time to INDEXTRAC. These senior personnel cannot be released for longer periods than 2 months therefore the course content would have to fit that period.

IDB would like to build up a corps of trainers whose services will be drawn on an adhoc basis from the regional offices whenever training courses are held. It does not intend to have a separate training division.

IDB has also started a course on development studies - small scale development - relying on personnel of IDB to lecture on finance of small industries etc.

Besides the regional office staff they have at the head office basic extension staff to serve the needs of the region. Seven sectoral areas or industrial areas of priority can be identified for three years or so - they are, food industry, fibre, wood-based industry, mineral-based industries, rubber, chemical industries. The people in charge of these areas are specialists and it was felt should receive some training because they are the key people who tackle problems in these areas. They will feed information to the regional staff who are dependent on these specialists. The specialists are degree-holders and post graduates who belong to the cadre of special development officer grade.

DIP:

ISI has a consultancy service and training programme for entrepreneurs but no local trainers' training. It was felt that this trainers' training course could be beneficial to ISI not only in organizing local extension officers training courses but in organizing local trainers' training courses to upgrade the staff as well. This would be useful to ISI and the other divisions of DIP.

TMDPC expressed a definite need to produce more extension officers and therefore also has a strong desire for trainers' training courses. Those selected should be participants of the basic INDEXTRAC who are senior staff because they will have the academic background and necessary experience in the field.

After conducting course he had interviewed industrialists and found that their aim of attending the local courses was to learn theory on technical knowledge and also how to solve existing problems - to get ideas from the trainers who are in fact specialists in a specific field.

As far as ISI is concerned its areas of priority are metal working industry and recently, the packaging field, plastics field. Other institutes within the DIP have several areas of interest and would need specialized technical training as well.

TMDPC's priorities are in the agriculture industry - their concern is converting raw materials into industrial products, the food industries, particularly canned food, sugar industry. It would like to improve the quality of its food products.

Bhattacharjee:

From discussions so far there seems to be interest for trainers' training by some POs and the others at some point of time. Just because one or two are interested the idea should not be discontinued.

It was felt that a working group composed of interested POs - Sri Lanka, Thailand, Indonesia, Bhattacharjee, and Philippines should work on local training and evolve a common strategy for the trainers course - a sort of action programme.

Gall:

suggested that the key elements of the basic course could lend substance to the local course tailored to suit prevailing conditions within a country concerned.

Mr Gall then went on to describe the proposed special technical extension workshop. Dr Brian E Grimwood, TPI who is based at the South Asia Development Division expressed TPI's willingness to provide one, two or three industry-experienced persons to assist in a 2-4 week Workshop specifically aimed at developing the extension worker. It would be based on a specific technical area of common interest to those PO personnel participating.

Since food processing heads the list of sectoral priorities of the POs, TPI, based on its expertise available, suggested the broad areas of 'food quality control' or one of the five following fields:

- fats and oils
- fruits and vegetable processing (including canning)
- fish processing (including freezing)
- essential oils
- general bakery area

TECHNONET would provide the extension training aspects with assistance from two or three personnel from UP ISSI, SIET and/or NRC/TIS - the extension methodology, approach and techniques - which is the major part and aim of the Workshop in the first few days. Then TPI in co-operation with technical personnel from the host PO and/or other TECHNONET countries would discuss the complete integrated process concerned, with basic economic aspects included, so that an optimum technical process and the inter-relationship of its different operations would be appreciated. Then the participants in teams would visit the co-operating production plants under the guidance of the (technical) extension leaders, identify the problems requiring attention and attempt their solution - over a period of 1-2 weeks. The participants would then come together again and each team would present its case(s) - how it identified it (them) arrived at its solution(s) and assisted in its (their) application.

This first pilot workshop would have to be held in a country where English is commonly used.

It will be essential that there are three or four small-scale plants using the process concerned who are willing to permit free access of the Workshop leaders and participants to their plants.

Malaysia expressed willingness to host the workshop however it had to survey the small-scale plants in Malaysia before any firm decision could be made.

Session 4

Visit to ISI

The participants were given a brief explanation of the organization and activities of the Department of Industrial Promotion, in particular, the Industrial Service Institute after which they visited the individual divisions.

This was followed by a visit to the Textile Institute, part of the ISI, which was established to upgrade the skill of the small textile manufacturers who were not able to compete with the large scale manufacturers. The Institute conducts training courses on the processing of fibres, spinning, dyeing, weaving, etc and provides services such as establishing standards and performing product tests free of charge.

Session 5

Determine individual Participating Organizations  
interests regarding local training courses

Bhattacharjee:

suggested that it might be good design to put two or three people thought to have enough training and of a fairly senior level to be with an outside resource person right from the beginning of the designing so that their experience is built up - this is one way to build up local resources. In the case of roving INDEXTRACs the same could apply and the outside person could be adviser to the local resource persons.

DP:

The objective of local training is to improve staff of extension service and to train potential extension officers and volunteer groups. The training course for government officials is designed to cover the human aspect as well as development in general. In Indonesia it is necessary to try and change the behaviour, attitudes and some of the traditional thinking. Therefore DP seeks more volunteers to become extension officers. According to Bermawi's estimation, DP needs about four trainers to each province which means some 108 trainers for Indonesia. The task of the officers will be to reach out to the small industries in the various provinces - there are some 100,000 small industries in Java alone. This is a continuous job. It is planned to set up an extension unit in the region and so it is necessary to train volunteers and improve the existing staff. DP needs to train trainers for local training so that they will be able to organize local training courses. The trainers may be trained in English but the local training has to be conducted in the Indonesian language and other dialects.

KORSTIC:

They have a strong desire to have a corp of extension officers and trainers groups. Because industrial extension itself is only just being taken up at KORSTIC, it is still too early to consider conducting local training courses which would rely mainly on KORSTIC's own resources. The need for local training is anticipated in one or two years time when it is expected that KORSTIC will have more extension officers.

KORSTIC's local training will be conducted in the Korean language.

All government officers, under a new government campaign, are supposed to be like extension officers throughout the country but with particular interest in science and technology. Professors from the universities (those in the engineering fields) have to try to join forces with extension officers to develop the level of technology in Korea.

KORSTIC recently enjoyed the services of an ex-NRC/TIS employee through UNIDO who gave assistance in the industrial information and extension field.

SIRIM and MARA:

The representatives from the two institutions stated that SIRIM and MARA are probably both interested in local training, however the matter must be put up for discussion at the Council (Advisory Council) which comprises authorities from other institutions also directly involved in industrial extension service and local training. These institutions are not involved in extension training. It was felt that perhaps the local training course for extension officers could be integrated into their curriculum. MARA and SIRIM therefore do not have an immediate need for local training.

It was mentioned that Kirouac of NRC/TIS Canada conducted a two-week programme at SIRIM and used teaching materials based on his experience in Canada and also SIET syllabus and various others. Five organizations participated in the programme. All candidates felt that the course had been beneficial however not all the candidates were involved in extension work. No formal training programme was evolved since then.

UP ISSI:

expressed its willingness to share its training facilities and experiences with the other Participating Organizations and in the content of the course. It was suggested that trainers concentrate on the technique of how to impart knowledge or the delivery technique. It was also suggested that the local training



courses be developed from the basic INDEXTRACs and adapted to suit local conditions. The syllabus would have to be carefully considered in another detailed discussion.

The Institute has always been involved in the development of extension officers although they are referred to as "Consultants". Local training is therefore an on-going process at UP ISSI. The consultancy courses which ISSI runs cover various aspects - financing, operations, follow-up etc. There are also other related and pertinent courses conducted for extension workers.

There are other agencies such as MASICAP which have similar extension action programme themes and they try to assist the industrialists in developing projects. The extension officers try to help would-be entrepreneurs develop a new business. If a project has already been developed it provides direct assistance to them in the form of training programmes etc. There is a total industrial service for the government or public sector.

EDF:

EDF is concerned mainly with the private sector and performs consultancy services on a contract basis. It is a private foundation without stockholders. There are about 40 extension workers and 40 more in support services. The Bulacan experiment is an example of the type of extension work undertaken by EDF with TECHNINET assistance. The services are provided free to industries that cannot afford the normal consultancy fees charged by the usual organizations and to those industries which are unable to secure government agency assistance due to limitations in resources and difficult logistics. There is a multiplicity of direct involvement. Now they are in the midst of documenting the Bulacan experience as a guide on how to deliver extension services as a process. The next phase of the Bulacan project is to expand the experiment from a provincial one to a regional activity (involving several provinces) with the objective of examining the existing cultural and other difficulties and making adjustments to the extension work. It will also show how the organizational capability can be developed for multiplication and continuation of the projects and developing teaching materials and information materials and also to examine the linkages between

extension work and other services in a given locality. EDF foresees problems in work done on the national level integrating with local governments.

Garcia felt that there is a need for local training but in terms of utilization of raw materials and labour, packaging of products, adaptation of marketing and credit packages to suit local conditions, credit facilities for rice farmers, (to create businesses for families to get through a season), delivery services and methods etc. Training is already being given to EDF's staff both formally and in the field, and therefore is an on-going process. EDF expressed interest to have TPI resource personnel either on a regional or country basis.

It was suggested that TECHNØNET retrieve from agencies specific experiences and disseminate these to the POs which could adapt these to their individual situations.

It was explained that the input of such material to TECHNØNET is dwindling but whatever useful case studies received are normally disseminated. The Forum is involved in this aspect. The Bulacan study was felt to be particularly useful since EDF did not have any background or experience before the project.

Bhattacharjee commented that case studies should cover a period of years to be meaningful and should include any significant developments thereafter. Perhaps the focus of INDEXTRAC could shift to organizing people in this work after some time.

SISIR:

In the case of Singapore, there is no need for conducting such a local training course. The Institute's present way of building up the expertise of its extension officers through actual experiences was considered adequate.

IDB:

is involved in local training and hence is interested in further improving its trainer capability for local training. The two week courses were conducted with available local resource people. IDB would want local training courses to be along the lines of the

INDEXTRAC course content and it would be adapted to suit local conditions and requirements. It will rely on local resource persons from the Management Development Centre, Ministry of Industries, UNDP etc. There is no component body handling extension work in Sri Lanka. For the proposed local training course lectures would be delivered by their most senior trained personnel as well as inputs from SIET, NRC/TIS etc.

The next local training course could be in English with 30-40 participants and while this is being done certain suitable personnel could be identified to understudy these people and eventually take the place of the local trainers. The materials could be translated and used for future training. Elwela felt a few more subjects could be included in INDEXTRAC's basic course content to be used locally.

IDB would like to borrow the resources of UP ISSI since the first local training course would be conducted in English. The objective of the local training is to upgrade the skill of its extension officers.

DIP:

ISI has a strong desire to conduct local training courses for extension officers in the Thai language. It would require the services of a foreign expert to help or supervise. Padetpai was not able to state exactly how many staff would require training but estimated some 50. There is therefore a more urgent need to train trainers who will in turn conduct local training courses.

It was mentioned that a training course for extension officers is currently being conducted locally, in English, by one (Dutch) APO resource person made available through TMDPC's connection with that body as Thailand's representative. While this is giving DIP some valuable experience and insight concerning conduct of local training courses, it is still felt that a course in Thai would be much more effective. DIP needs TECHNUNET's assistance to develop this capability.

Session 6

- Determine - common strategy for further development of a corps of extension officers through basic training and other means
- common strategy for the development of training courses

At this session it was agreed that another INDEXTRAC course should be conducted some time early in 1977 - possibly beginning late January. The course would basically have the same syllabus as INDEXTRAC '76 and conducted at UP ISSI. Those Participating Organizations interested would send mid-career level officers to attend. These will be nominated on the basis that as many as possible would be those with good aptitude to become trainers for local training courses. Thailand, Indonesia and Sri Lanka expect to participate strongly nominating five, three and four officers respectively. It was also stated by representatives from SIRIM, MARA and EDF that each would nominate two trainees for the course, while KORSTIC intended to nominate four officers.

UP ISSI's representatives felt that a group of larger than that which attended INDEXTRAC '76 would be too difficult to manage effectively. Therefore only the optimum course number should be selected when the time comes.

IDB wished to conduct a local training course modelled after the INDEXTRAC syllabus but modified and refined to suit local conditions. Thailand strongly wished to have a formal Trainers' Training Course. It was agreed subsequently that, IDB's local INDEXTRAC should be planned to follow INDEXTRAC '77 (INDEXTRAC V), as closely as possible. Meanwhile it was proposed that Thailand's potential trainers should learn from INDEXTRAC IV and also observe closely how IDB's course is designed, planned and conducted. After that, if the Thai trainers feel more formal trainers training is needed, then TECHNUNET Centre would try to find ways of filling in this gap before, or at same time as, the Thais embark on designing, planning and organizing their own local training course. By that time, the formal training required may not involve too much effort, especially in view of the currently conducted APO's local training course for extension officers, which could offer much insight regarding local training. This proposal was provisionally accepted by the Thai participants.

## SESSION 7

### UP ISSI:

Explained the type of courses offered by ISSI and suggested that other POs could possibly participate in these courses.

Another area which could be explored and which could help indirectly in the development of extension officers is the exchange of staff.

### MARA:

is concerned mainly with the upgrading of skill of extension officers and therefore would be interested in basic training and special training. As far as local trainers' training is concerned MARA does not feel the need for this since firstly it has a limited number of extension officers and secondly there are other institutions offering training in Malaysia.

### SISIR:

From the experience gained from the proposed local courses, it will be possible to determine the need for trainers' training course and if necessary, draw up a suitable curriculum . Goh felt this was the general consensus at the previous meetings. Personnel exchanges, workshops and seminars for specific disciplines would be considered beneficial.

### DIP:

ISI could adapt a local training course in time but requires foreign expertise through TECHNONET (except APO since they already

have contact with it).

EDF:

Packaging of technology into local conditions is a critical concern of theirs. When technology is brought into areas which have not been touched by industry as in the case of some areas in the Philippines, many problems arise in these communities. EDF is interested in the human aspect - how to deliver this technology effectively in these settlements.

DIP:

At the previous meeting ISI mentioned its need for local training and its interest to send observers to Sri Lanka for IDB's local training course. ISI proposed that the next local course be held in Thailand subsequent to the IDB's course. This would be conducted in Thai.

KORSTIC:

Extension officers discuss cases with each other after field ~~work~~ assignments in order to seek better methods and to improve. This helps in their development of strategies. For the moment KORSTIC prefers to secure more extension officers by sending representatives to INDEXTRAC for training. They <sup>may</sup> ~~expect to~~ organize local trainers' training courses some time mid next year.

IDB:

Its main objective is to train more extension officers in industrial extension. This would be achieved through the next INDEXTRAC and the <sup>proposed</sup> ~~moving~~ INDEXTRAC ~~to be~~ in Sri Lanka where inputs would more or less be on the same lines - UP ISSI, NRC/TIS, SIET. This local course would facilitate the training of certain trainers. Therefore IDB's preference is for the local training courses which

in specialized and advanced training and agrees with SISIR's suggestions. They would require certain assistance from POs to train their personnel in specific disciplines. When such workshops or training courses are held at the POs and ad hoc training from time to time they will communicate their desires to TECHNINET when required.

DP:

Indonesia's aim is to strengthen research in the provinces in the ~~area of~~ specialized areas and transfer technology through a network of information services, extension services and technical services; provide direct assistance to locations which have a concentration of handicraft, cottage and small industries; train extension field workers in the various regions (they have 37 industrial regional offices); utilize young voluntary workers to manage demonstration plans etc to be provided by the project.

Therefore all the forms of training offered would of interest to Indonesia - whether local, INDEXTRAC or specialized. Trainers' training courses would be needed earlier than proposed since DP has a large group to be trained within this two years and spread out in the region.

They propose to send two Achievement Motivation Trainers to observe the Sri Lanka course then they can compare and adapt that for their own local course. Three representatives could be sent to INDEXTRAC IV.

CHICO:

The earliest time that INDEXTRAC IV could be held would be January followed by Sri Lanka's local course in July and DP in September or

when funds are available and the possibly DIP or perhaps the two (DP and DIP) could be held simultaneously depending on the PO's fiscal year. Korea could perhaps have its course in February 1978. These are however only tentative schedules for local training.

IDB:

The local course ~~as it was~~ would have modifications and additions as it was felt that their extension officers require knowledge on special subjects such as pre-investments counselling: which involves project evaluation, preparation of feasibility studies or surveys, industry profiles etc. For this local resource persons could be called upon to draw up the syllabus. But for those subjects concentrating on industrial extension they would like repetition of the INDEXTRAC course content. The two would be tied up. IDB would provide the guidelines and tentative schedule but would require assistance with the course content from TECHNUNET Centre. Therefore the local course will include special subjects and the basic INDEXTRAC course content and preparation ~~xxx~~ of the course content  
ix

DP:

could use the similar process possibly by translating for local conditions.

SG:

suggested perhaps UP ISSI could assist IDB in drawing up the content in the next month or two and by September send a tentative schedule of subjects, merged with INDEXTRAC and with certain changes after which the final could be decided with UP ISSI and TECHNUNET. Therefore it would be prudent for IDB to start selecting its resource persons by the end of this year and also select local personnel to understudy



INDEXTRAC trainees and they would eventually be the local trainers.

IDB:

In reply to a question as to the number of observers which could be accommodated, Elwela replied that it depends on the number of trainees, the duration of the course, the number of groups for fieldwork assignments, available of coaches, industries for fieldwork etc. They would however be willing to have a convenient number. The number of participants could easily be 20. ~~XXXXXXXXXXXX~~ Then the number of understudies would have to be considered.

SG&LVC:

Priority ~~XXXXXXXX~~ should be given to those POs which intend to conduct their own local courses immediately after the Sri Lanka one. In this case, DIP and DP. ~~Preferably those who will be the actual trainers.~~ As regards selection, those who will be the actual trainers in their own local courses would be preferable.

DP:

Suggested that the observers ~~XXXXXXXX~~ need not stay through the entire duration but perhaps at different periods.

EDF:

felt that the consideration of proper documentation of this ~~XXXXX~~ INDEXTRAC ~~XXX~~ and in particular~~x~~ the local courses should be emphasized since they would be ~~px~~ prototype for the other POs. The experience could be disseminated and applied to the other situations as is done by EDF.

LVC:

Agreed ~~See~~ to EDF's suggestion and added that the time frame should be considered too. An accurate account



LVC:

mentioned the preparation of a TECHNONET presentation mainly for the Board of Governors meeting in September and sought the inputs of POs in supplying as many slides, preferably colour ones, (perhaps a dozen or more) on interesting factories, their officers and personnel (approximately 10 or 12 factories) of ~~xxxx~~ ~~xxxx~~ ~~xxxx~~ extension cases. The Centre has also solicited SISIR's assistance <sup>For those</sup> with regard to this. ~~XX~~ POs ~~have~~ <sup>with</sup> processing problems, TECHNONET Centre offered to reimburse or have them processed locally. The slides should portray practical results in the development of extension work in Asia in action and perhaps the ~~XX~~ Asian Industrial Extension Officers' Forum. The presentation could be used as an aid at the various courses to illustrate extension work. IDB and MARA appear to have potential input ~~for~~ for the presentation. ~~Mr~~ Mr Chico gave a brief account of TECHNONET activities particularly those which ~~xxxx~~ ~~xxxx~~ tie in with training and development of extension officers - the SISIR two-day seminar on the role of extension in transfer of technology, the first TECHNONET Information Committee Meeting in October, exchange of personnel among POs etc.

The meeting was then open for comments on the previous sessions ~~and~~ and it was suggested that ~~xxxx~~ emphasis should be laid on the evaluation of BHAPs rather than fieldwork assignments and that ranking of trainees may encourage trainees to aim their energies at ~~the~~ attaining the best performance instead of ~~the~~ the learning process.

UP ISSI commented that evaluation in some cases is necessary to stimulate and improve the performance of the trainees. The BHAPs is useful in determining the level of learning, facilities, training behaviour level and how the PO has ~~improved~~ improved as a result of ~~the~~ trainees' participation in the course. Evaluation was ~~xxxx~~ therefore felt to be an important

XXXXX

could reduce the competition.

MARA suggested that as far as possible the same representatives should try to attend the TTC meetings in order that there will be continuity and this would be the responsibility of the PO concerned.

Mr Chico concluded the meeting by thanking those who participated. It was felt that the meeting was useful in determining the POs needs and for the planning of the next programme. Training is the most important element in the Forward Programme . It will multiply the number of extension workers in Asia and strengthen the transfer of technology which can only be done through people. Another area of concentration is entrepreneurship development - one which would be of interest to most of the POs. The stress is on the extension officer, whether administrative or in another part of the organization.